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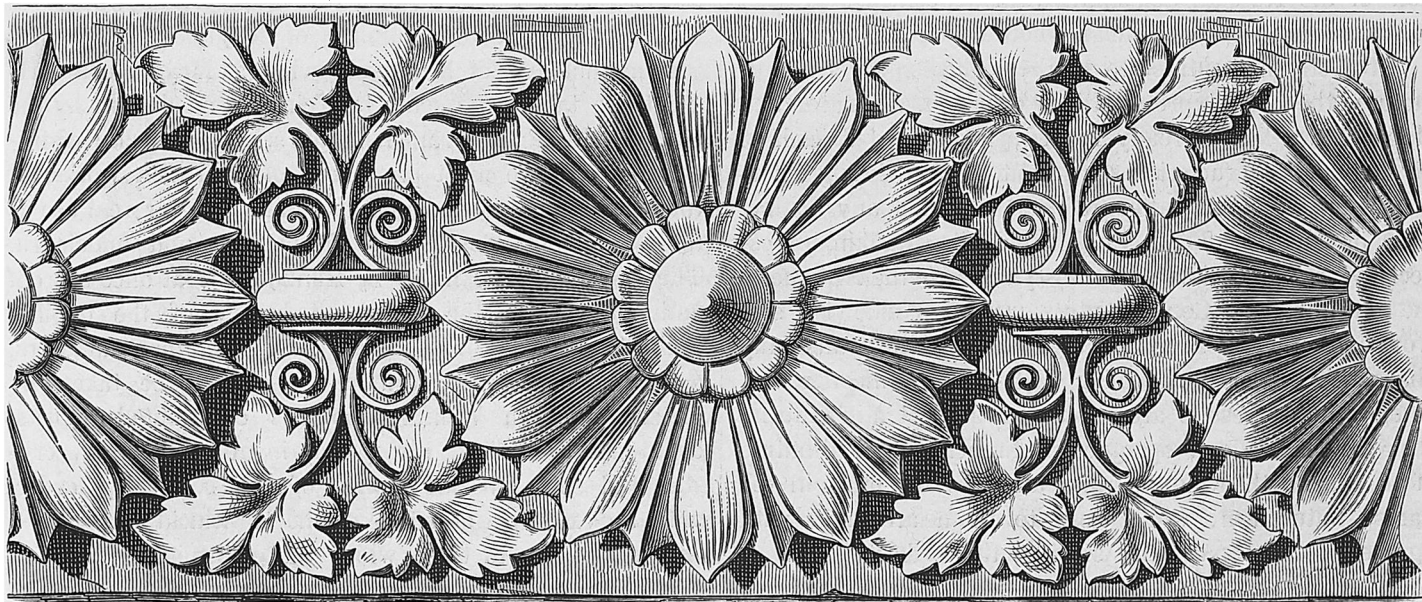
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worthily, characteristically and comprehensively. His contributions embrace every kind of subject, from the smallest vessels, of tea and dinner services to the largest centre-pieces and vases. They are varied in style, for the Antique, especially the articles found at Hildesheim, the Chinese and Indian metal works, the renaissance and the French styles of the eighteenth century have all equally furnished motives. The technique is universal, for he shows us silver treated in every possible way, oxydised, mat, polished, engraved, damascened, and enamelled. All however is genuinely French in treatment without purity of style, and frequently arbitrarily heaped together in a confused melange. Thus there are some charming, sometimes truly perfect works, and others to which as capricious or overloaded we must deny any merit.

In one point, Christofle's silverworks display a happy novelty in the colour that is given to them. If we look

at those of any other country, we see that where they are not gilt, they are either polished and mat, or of a leaden hue and strongly oxydised, and in neither case are they agreeable to the eye. Christofle, on the contrary, shows us a number of delicate silverpieces of a warm and bright tint, which is still silvery and pleasant to the sight. All these objects have been first exposed to the process of gilding, and the gold is afterwards again rubbed off with the exception of a small remainder of the warm tint, while just a trace of it remains in the cavities. The process appears to us a very successful one, and peculiarly adapted to take from the silver its unpleasantly cold and hard appearance, while it leaves its delicate and clear tint. We regard this novelty as a decided step in advance in the goldsmith's art, correcting an imperfection and a disagreeable peculiarity, which is at present too common throughout Europe.

## SPECIMENS OF ORNAMENTATION.

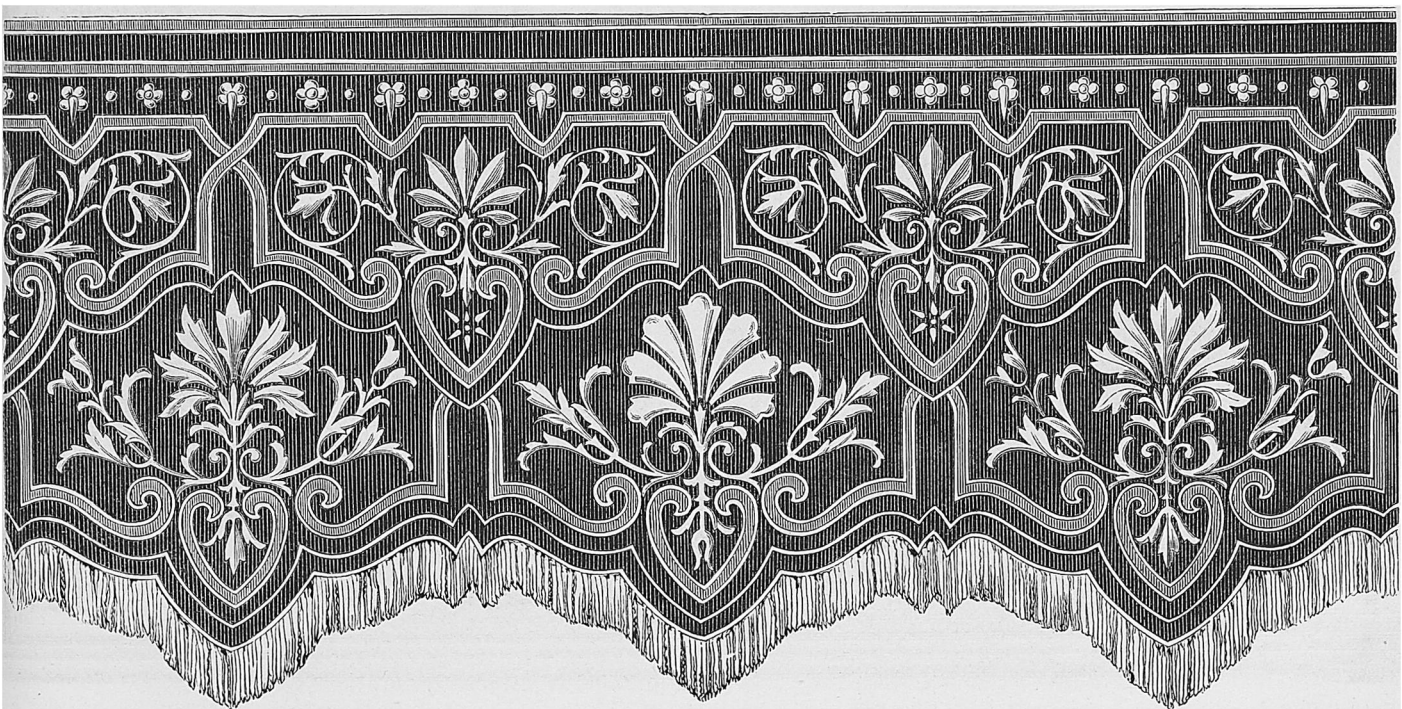


No. 1. Border Pattern, designed and modelled by M. A. Brasch in Berlin.

## FROM THE VIENNA EXHIBITION.



Nr. 2.



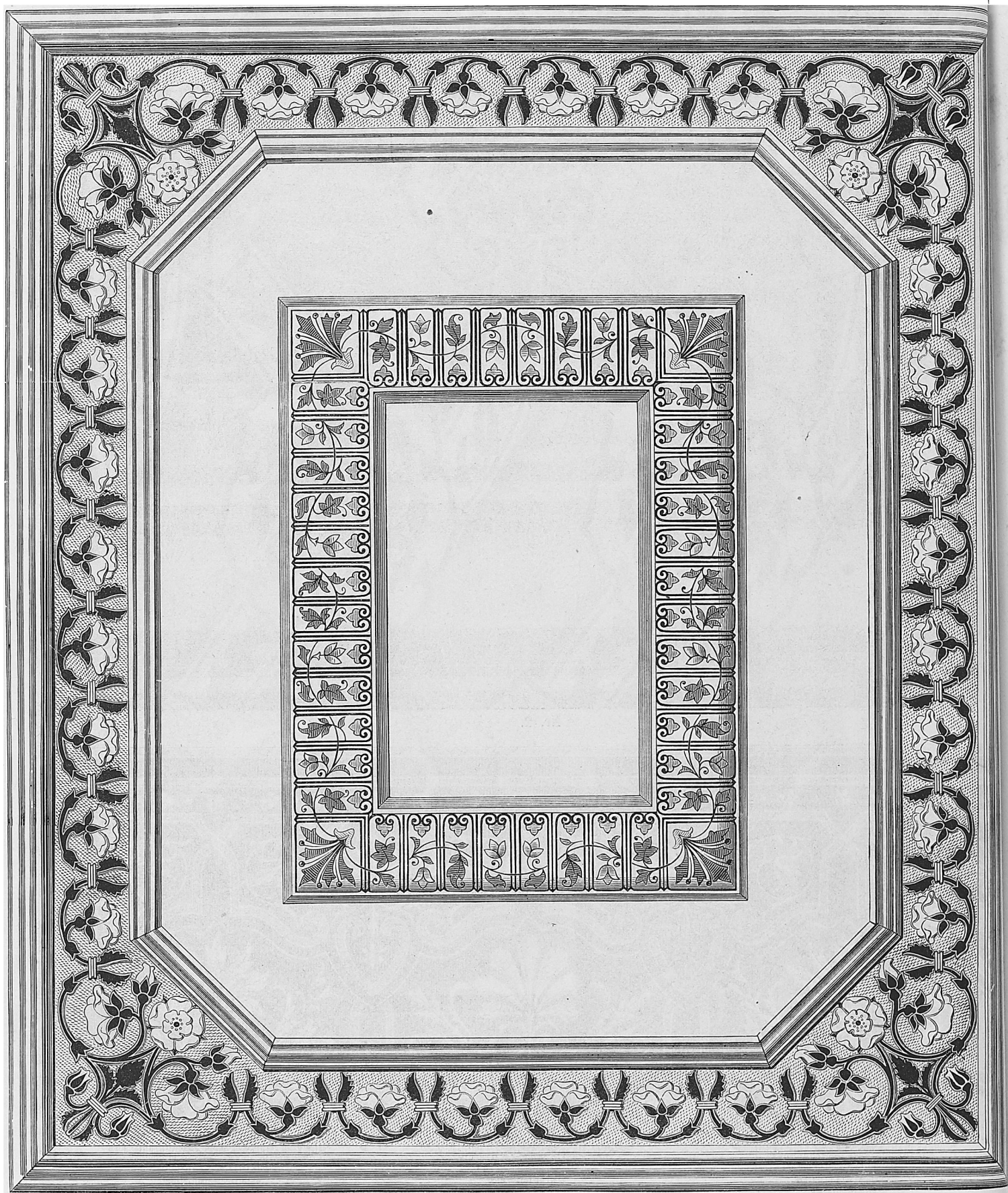
Nr. 3.

No. 2. Pattern for Silk Hangings, manufactured by Mr. Charles Giani, Vienna.

No. 3. Embroidery in Gold on red Velvet, for crowning of baldachin, manufactured by Mr. Charles Giani, Vienna.

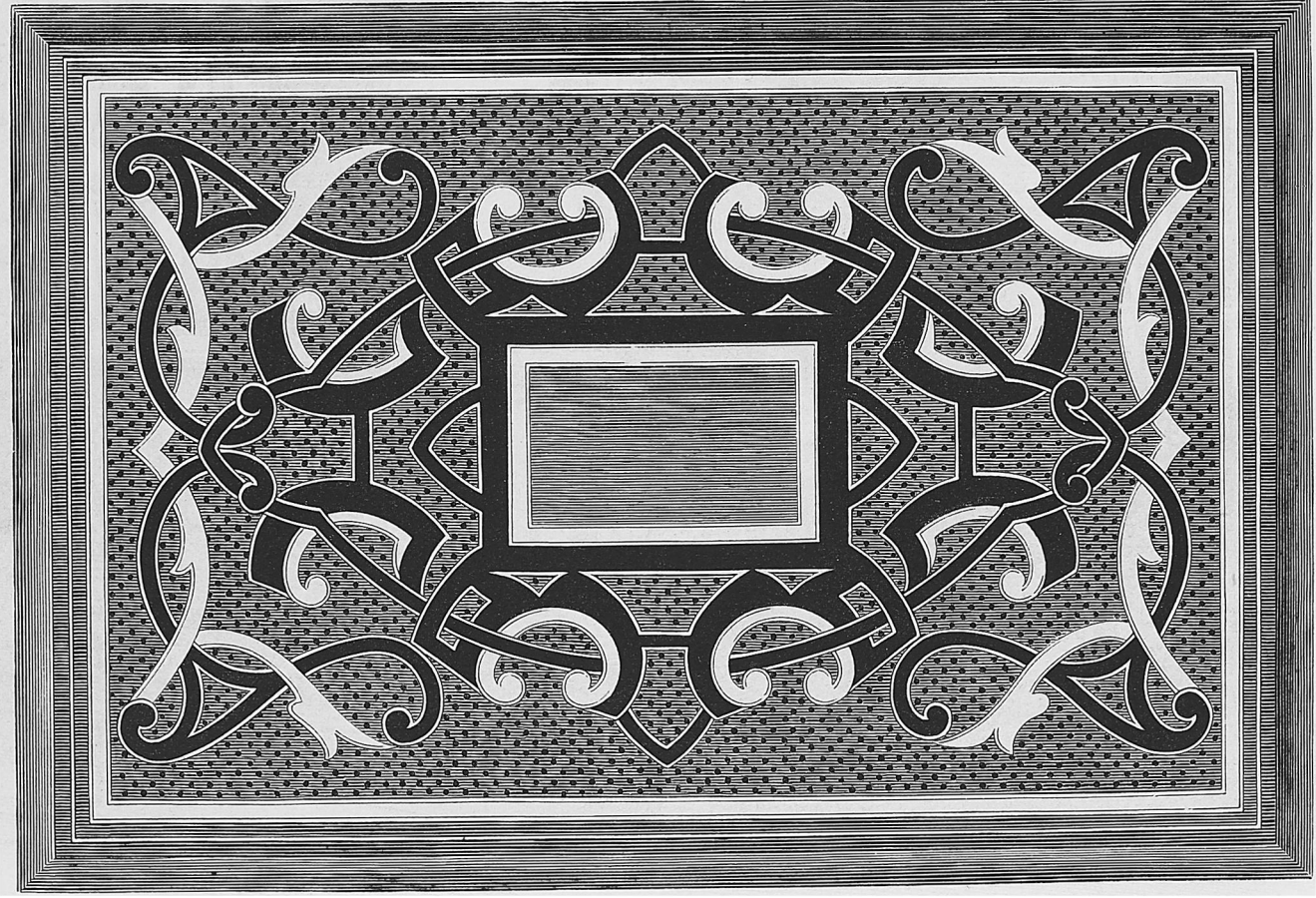


## FROM THE VIENNA EXHIBITION.



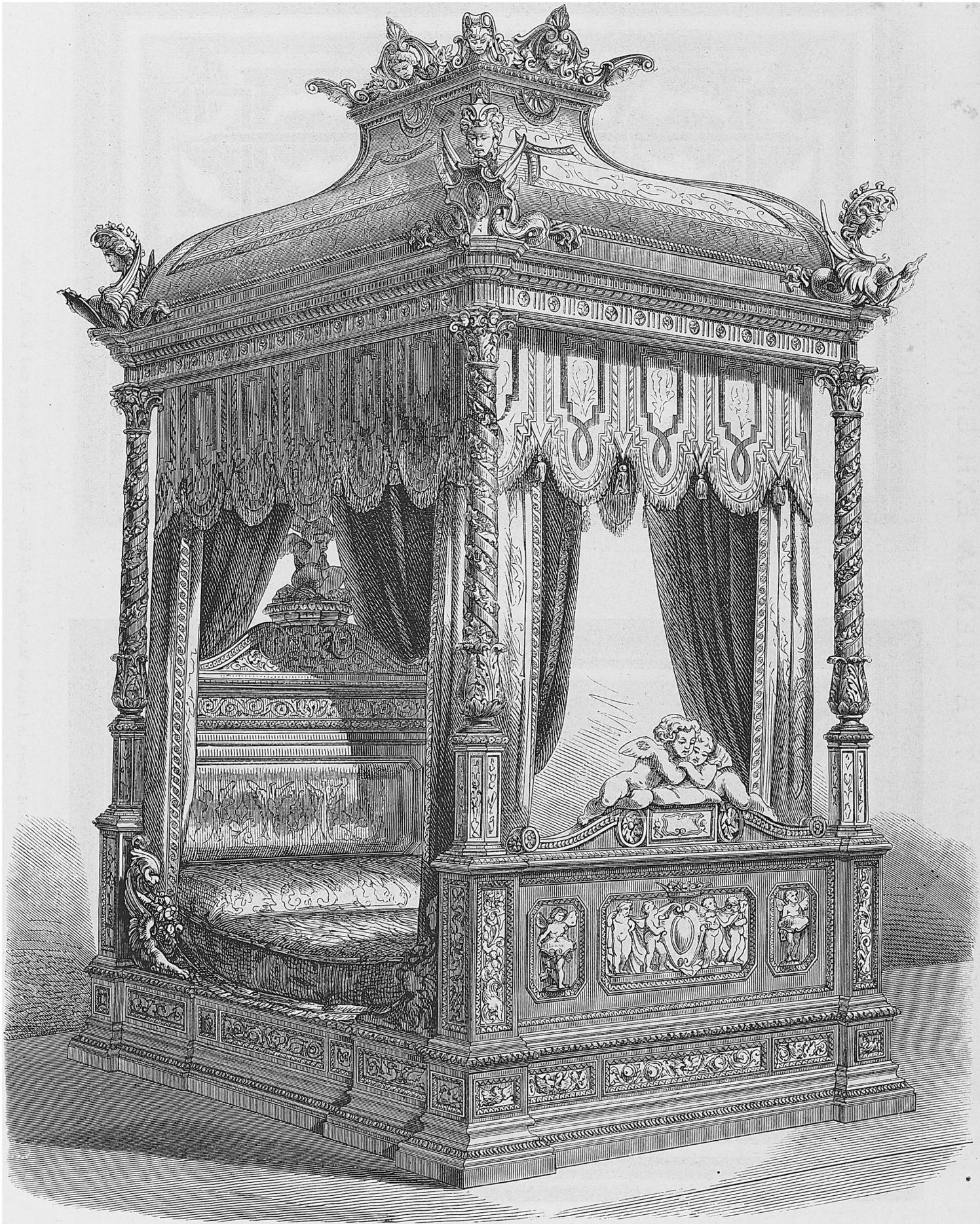
Nos. 4 and 5. Mirror and Portrait Frames in enamelled Bronze, designed and manufactured by Messrs. Ravené and Sussmann, Berlin.





Nos. 6 and 7. Book Covers in Leather Mosaics and Gilding. — Messrs. Wunder and Kœlbl, Vienna.

## FROM THE VIENNA EXHIBITION.



No. 8. Carved Walnut Bedstead, designed and manufactured by M. Emilio Truci in Florence.

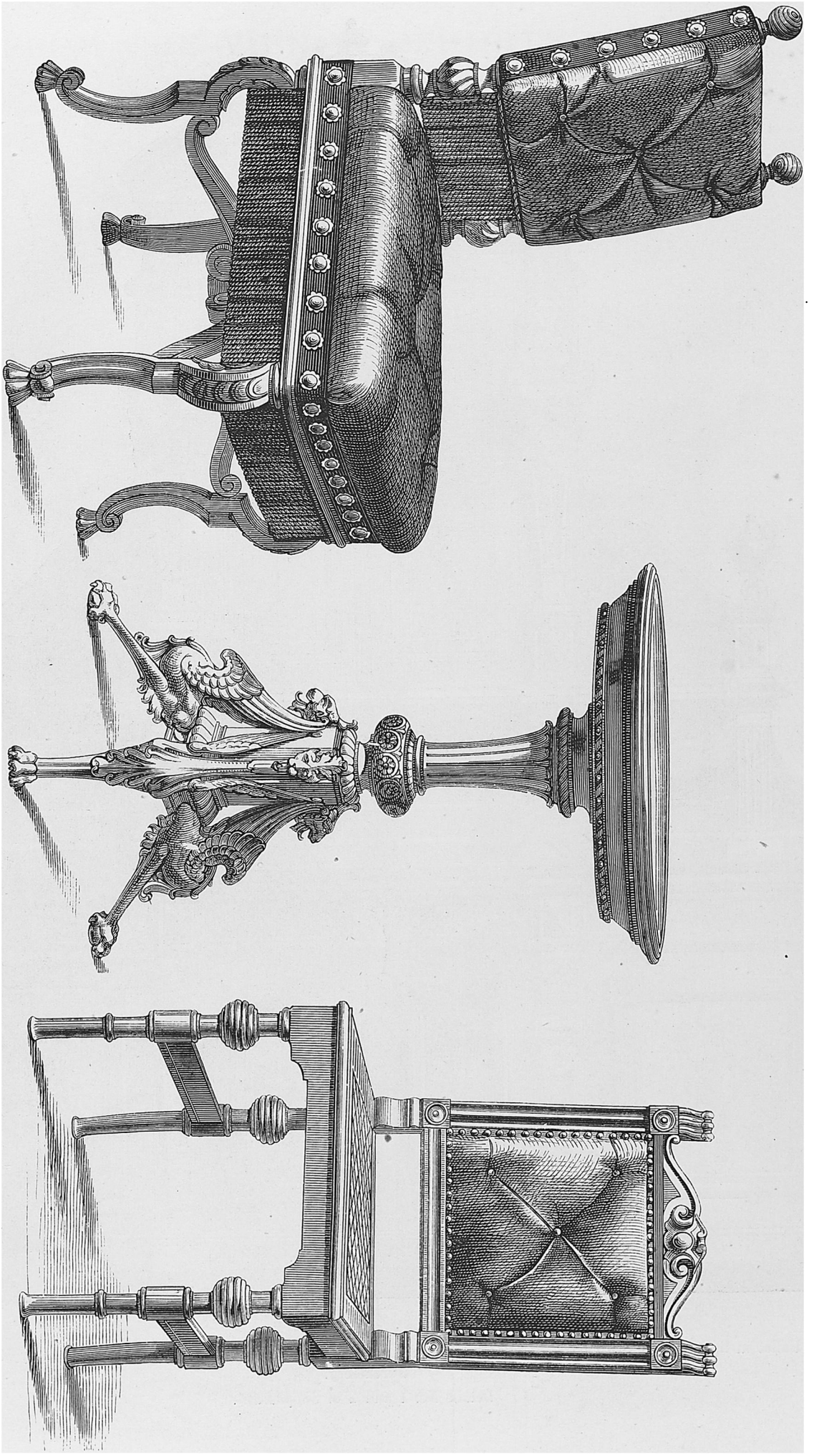




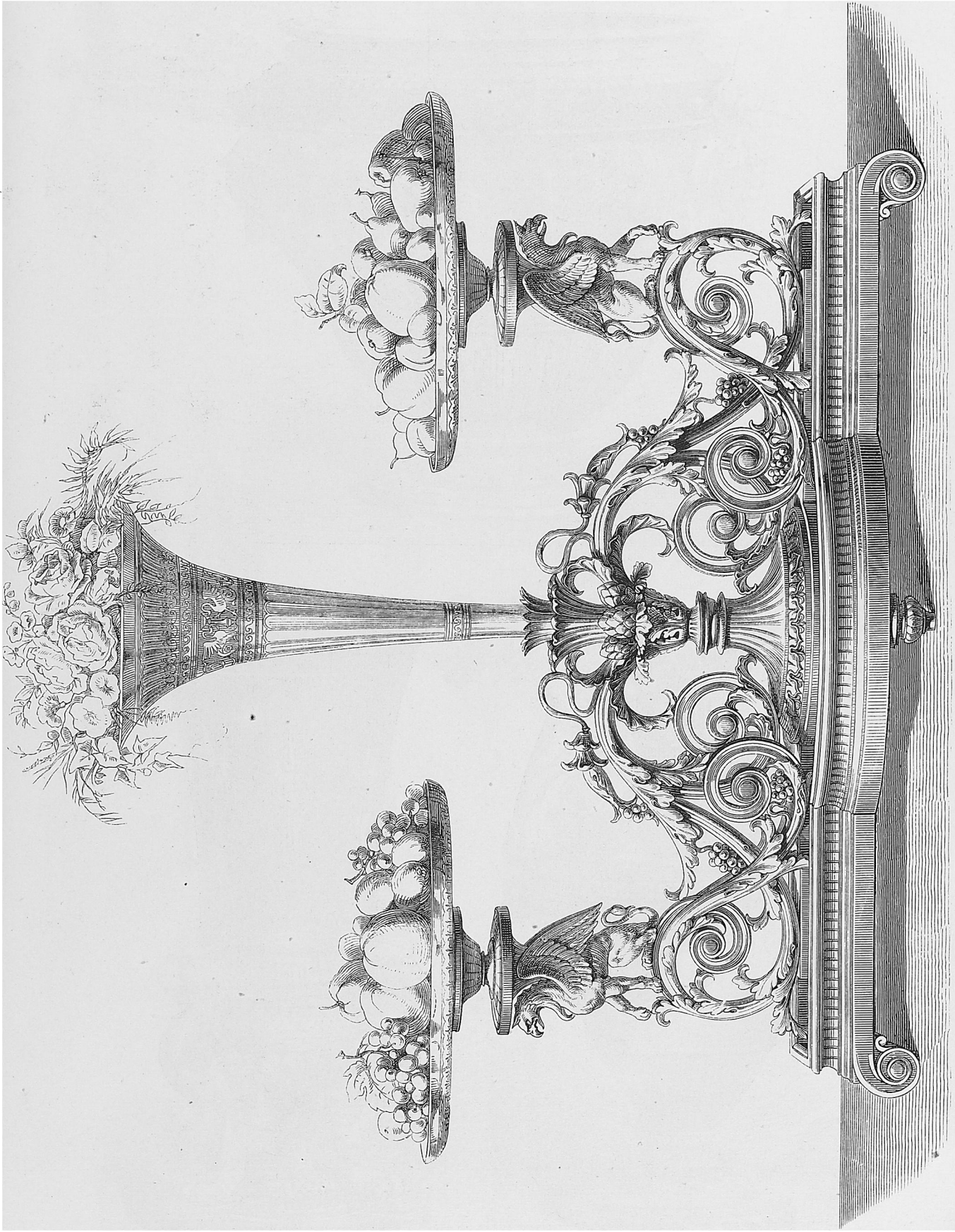
No. 9. Buffet in light Walnut with dark stained and polished Mouldings, from the design of Mr. Fr. Stettner by Mr. J. G. Stettner, Nuremberg.

Details No. 1 and 2 of Supplement.





Nos. 10—12. Stuffed Chairs and Drawing-room Table with Marble Slab and Bronze Foot, designed and manufactured by M. Fr. Schonthaler, Vienna.



No. 13. Flower and Fruit Stand in carved Wood with Crystal Vases, from the design of Mr. Th. von Hansen, Architect, executed by Messrs. J. & L. Lohmeyr, Vienna.  
Details Nos. 3 and 4 of Supplement.



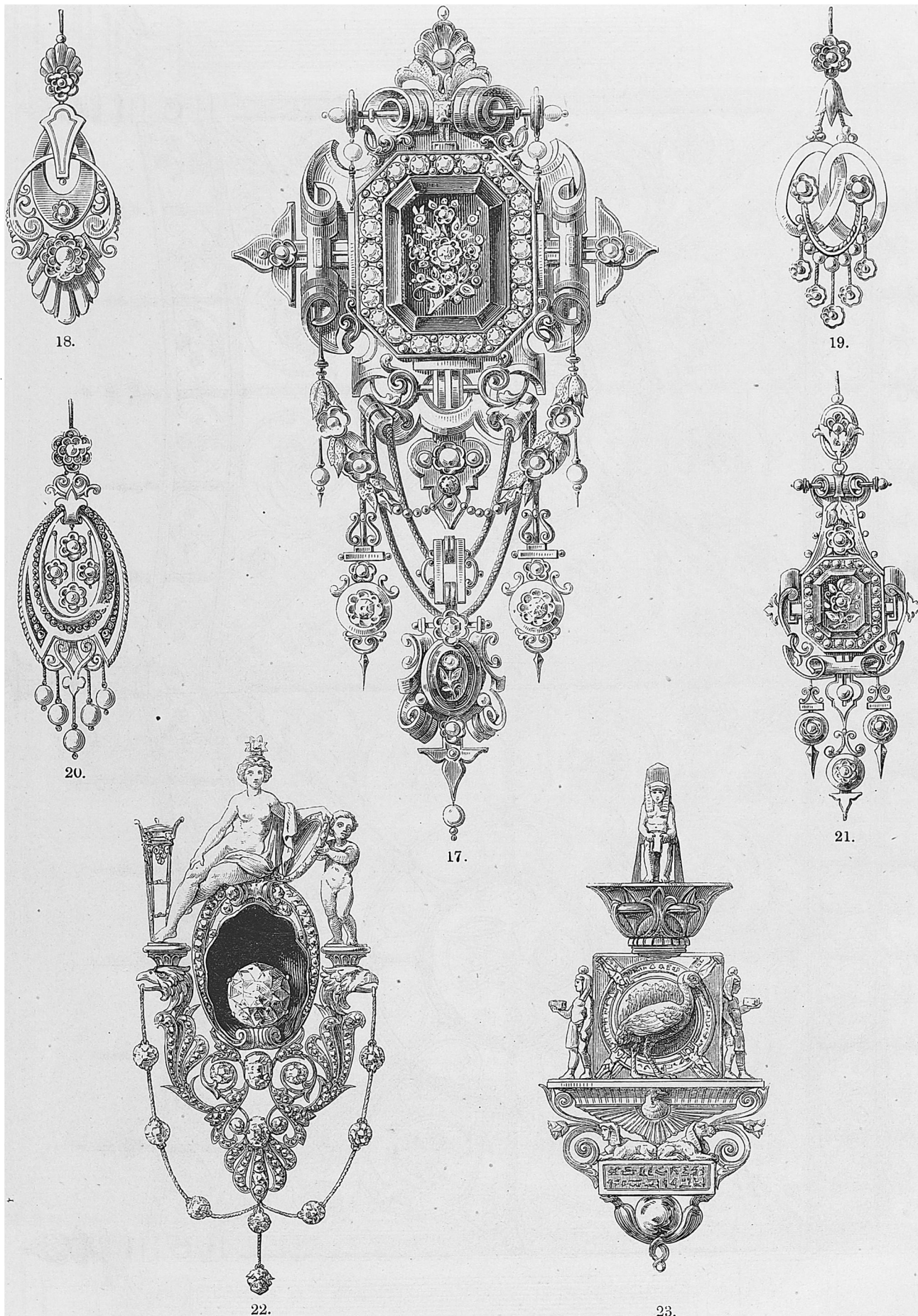
## FROM THE VIENNA EXHIBITION.



Nos. 14—16. Vases manufactured by Messrs. Villeroy and Boch, Mettlach.

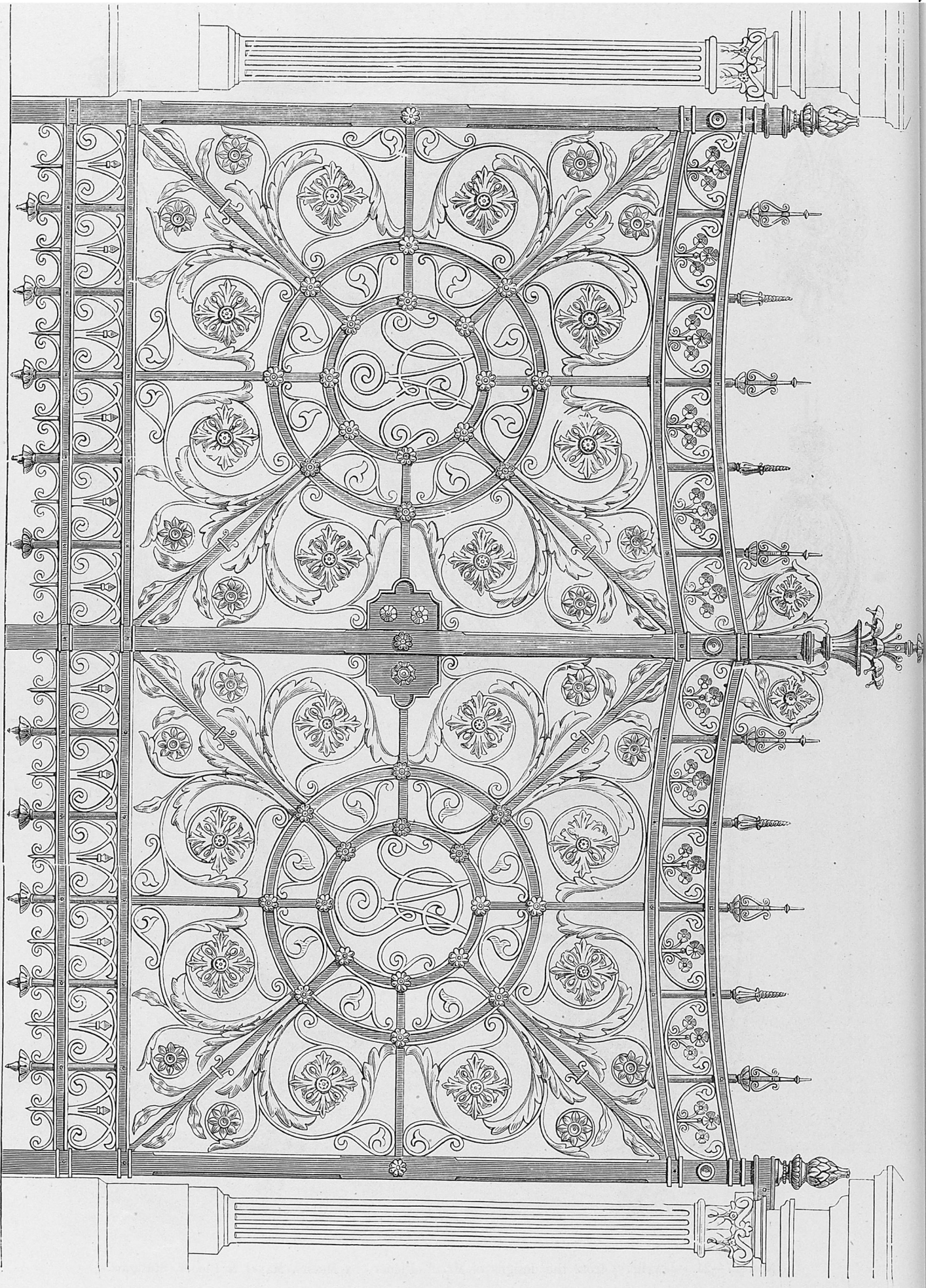


## FROM THE VIENNA EXHIBITION.



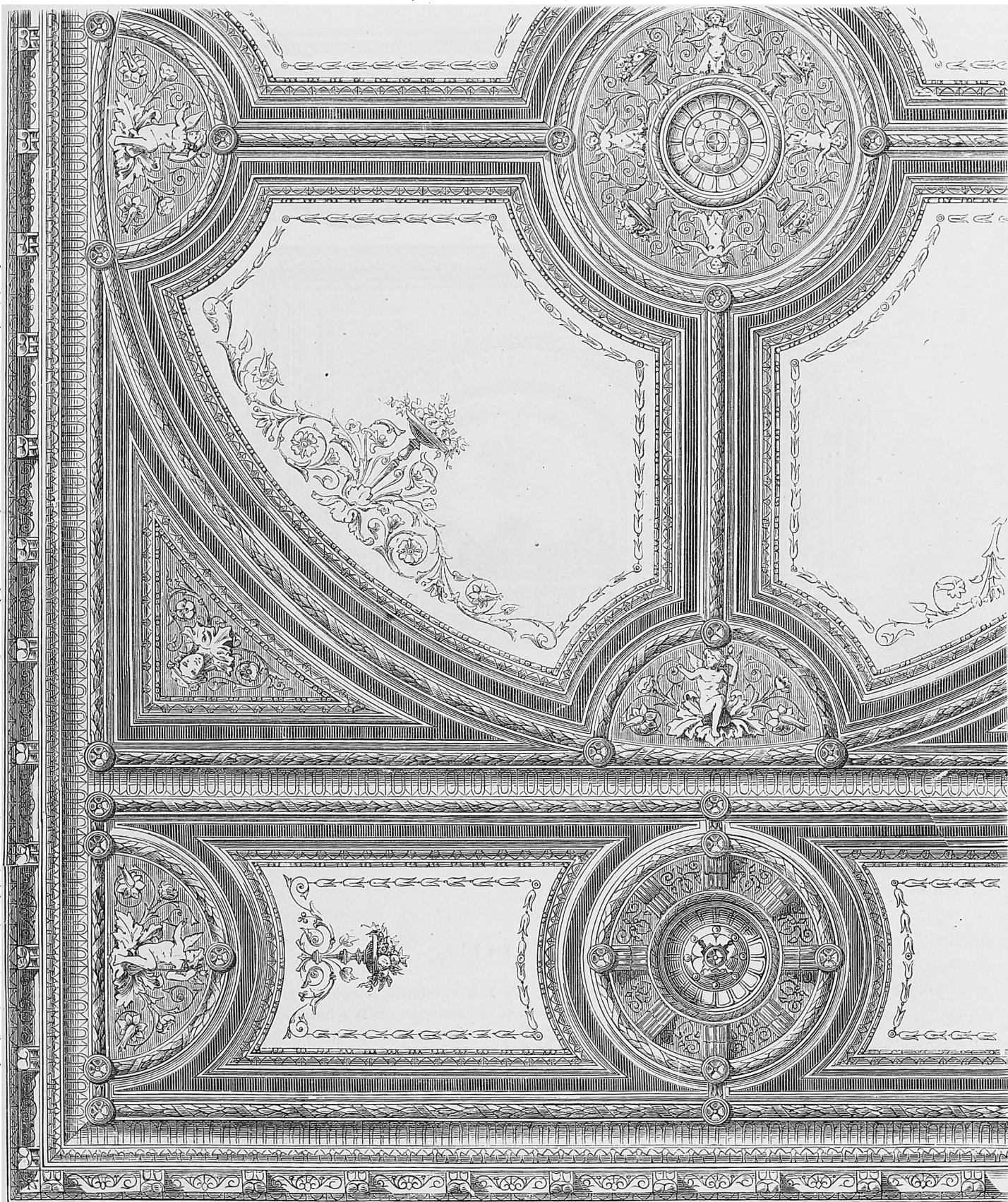
Nos. 17—21. Jewellery; from the designs of Mr. A. Pleuer, by Messrs. Mayer & Pleuer, Stuttgart.

Nos. 22 and 23. Locketts designed and manufactured by Messrs. G. Twerembold and Sons, Turin.



No. 24. Wrought Iron Gate, manufactured by Mr. Ed. Puls, Berlin, from the design of Messrs. Van der Hude & Hennicke, Archts.

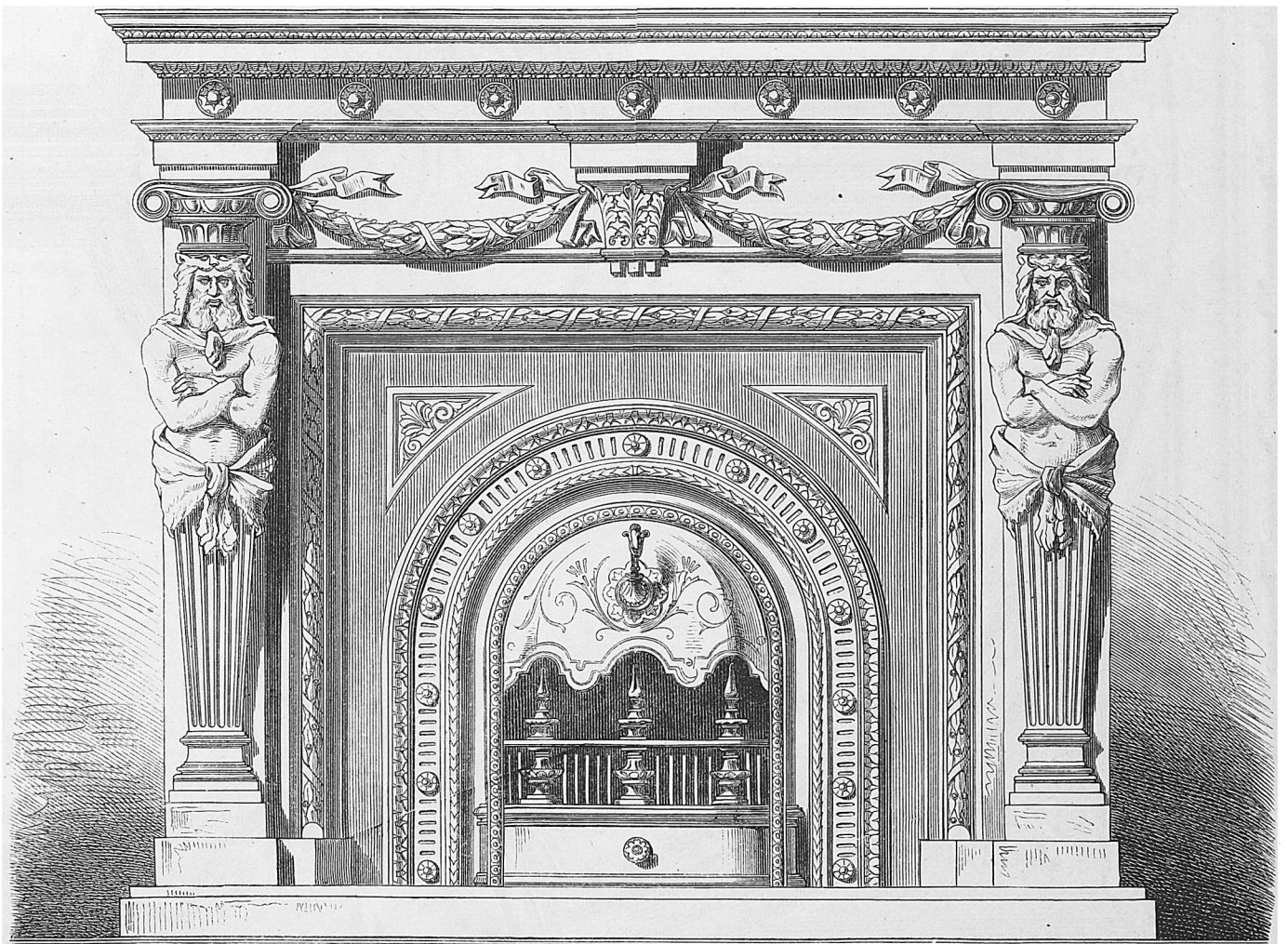




No. 25. Design for a Ceiling in Stucco, Colors and Gilding by Mr. E. Mecklenburg, Archt., Wiesbaden.



## FROM THE VIENNA EXHIBITION.



No. 26. Chimney-Piece in Marble, with Fittings in polished Steel and Bronze Ornaments, designed and manufactured by Messrs. E. Wille & Co., Berlin.

## VARIOUS.

## THE SAND-BLAST PROCESS.

A stream of sand is introduced into a rapid jet of steam, so as to acquire a high velocity, and is then directed upon any hard substance so as to cut or wear away its surface. For cutting stone, a jet of from 60 to 120 lbs. pressure is used. The sand is introduced by a central tube of about  $\frac{1}{8}$  inch bore, and the steam issues from an annular passage surrounding it. The steam drives the sand through an iron tube  $\frac{3}{8}$  inch bore and 6 inches long, and the sand strikes upon the stone which is held at certain distances according to the depth of the cut required on the surface to be operated on. This iron tube will last about 10 hours, being worn away by the sand, but it is easily replaced.

To obtain ornaments on stone, a stencil of iron or caoutchouc is fixed on the stone and the sand-jet moved evenly over the whole surface, so that all the exposed parts may be cut to the same depth. A stencil of cast iron  $\frac{3}{16}$  inch thick will make 100 cuts  $\frac{3}{16}$  inch deep in marble, and will be worn down to about  $\frac{1}{16}$  inch thickness, while one of vulcanised Caoutchouc about  $\frac{1}{16}$  inch thick exposed to sand driven by 50 lbs. steam at

2 feet distance will show scarcely any wear while 50 cuts are made in marble, in all 200 times the thickness of the caoutchouc.

To cut a level surface on a tough stone, the sand jet is made to cut a groove about 1 inch deep along its whole length; the edge is then broken off and the jet advanced an inch, and a new groove cut and the process continued. To cut a deep channel, two jets are used about 3 inches apart, leaving between them a narrow tongue of stone to be broken off, and the jets advanced as before.

Sand driven by an air-blast of the pressure of four inches of water will depolish the surface of glass in ten seconds. If the glass is covered by a stencil of paper, or by a design drawn in any tough elastic substance, a picture will be engraved on the surface. Photographic copies in bi-chromated gelatin from line engravings, have been thus faithfully reproduced on glass, the half tones or gradations of light and shade being successfully preserved.

The sand-blast invented by B. C. Tilghman, London, has been applied to cutting ornaments in wood, cleaning metals and the fronts of buildings, graining or frosting metals, cutting and dressing mill stones, and a variety of other purposes.